

Carpenter (G. W.)



OBSERVATIONS AND EXPERIMENTS

ON THE

PHARMACEUTICAL PREPARATIONS

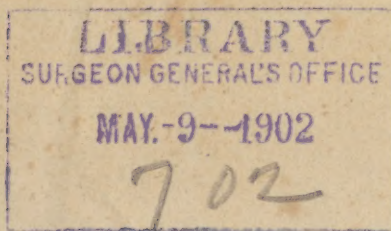
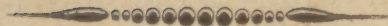
AND

CONSTITUENT PRINCIPLES OF OPIUM.

BY

GEORGE W. CARPENTER,

OF PHILADELPHIA.



THE NEW YORK AND EXPANSION

THE NEW YORK AND EXPANSION

THE NEW YORK AND EXPANSION

THE NEW YORK AND EXPANSION

THE NEW YORK AND EXPANSION

THE NEW YORK AND EXPANSION

THE NEW YORK AND EXPANSION

OBSERVATIONS, &c.

[Extracted from the Philadelphia Journal of the Medical and Physical Sciences, for Aug. 1827.]

THIS important article, from its extensive usefulness, in modifying and alleviating the most afflicting and painful diseases incident to human nature, merits perhaps the most conspicuous place in the *materia medica*; yet from being injudiciously administered, and more particularly from its pharmaceutical preparations, being improperly made, it frequently produces injurious and distressing consequences. With the hope of remedying some of these inconveniences, I have made a series of experiments, the results of which are contained in the following observations. Before, however, entering upon the pharmaceutical preparations, it may not perhaps be improper to offer a very concise view of the natural history and physical characters of this article, as it occurs at the present day in our commerce. Opium is the product of the *Papaver somniferum*, and is the inspissated juice of the capsules of that plant. It has been improperly termed a gum by many authors, and the error prevails to the present day. It is a native of the southern parts of Asia. It may, however, be raised in our gardens, and is now cultivated in England on an imposing scale, which has been increasing for several years. It possesses the same properties as the Turkey or East India opium, and is more pure, containing a larger proportion of soluble matter. The Turkey opium has hitherto possessed the best reputation, and has been considered superior to any other. Dr. THOMSON* informs us, that he obtained from Turkey opium nearly three times more morphia than was yielded by the same quantity of East India. I have treated equal quantities of Turkey and English opium by the same process, and obtained twenty per cent. more morphia from the latter than the former; this would sanction the belief of the superiority of the English; which superiority, I think, is to be attributed to the careful manner in which it is prepared. The following are the prominent characters of the several varieties of opium, and by which they may be easily distinguished.

* London Dispensatory.

Turkey opium is of a reddish-brown colour, possessing a strong narcotic odour, of a solid and compact consistence, when dry has a shining and uniform fracture of a dark-brown colour producing a reddish-brown powder; the best kind is generally in flat pieces.

East India opium is of thin consistence, sometimes almost like that of honey; when dry it is more friable, its colour nearly black, and possesses less bitter and a more nauseous taste than the *Turkey*; it has a strong empyreumatic odour, and not the narcotic heavy one which is so sensible in the *Turkey*; it is considerably cheaper and much inferior in strength to the latter, and according to Dr. Thomson contains but one-third the quantity of morphia and a larger proportion of narcotine, which renders it a far less desirable article. Dr. COXE, in his valuable *American Dispensatory*, remarks, that one-eighth the cakes is allowed for the enormous quantity of leaves with which they are enveloped. This opium is little used in this country, and is seldom, if ever to be found in the shops of our druggists.

English opium is generally in smaller cakes, frequently thin and flat, of a more permanent consistence, of a clear smooth fracture, and is destitute of leaves, stalks, and other impurities which generally accompany opium. It has the general character of being superior in quality to the *Turkey*, which *chemical analysis** has determined. The quality of opium differs very ma-

* It is to chemistry that we are indebted for many important facts in relation to opium, and for the knowledge of morphia and narcotine, the two active principles of opium—two principles of a directly opposite nature existing in the same substance, and exercising individually their particular effects on the constitution. Many are opposed to chemical analysis as a means of discovering the virtues of medicines, and among others Dr. Young,† who states as an argument that Geoffroy discovered by chemical analysis that the soporific quality of opium depended upon its sulphur. We might agree with Dr. Young, if the science of chemistry had not advanced since the period alluded to, and did experiments upon opium now lead to similar conclusions. We might as well reject as useless the analysis of cinchona bark, because a chemist has asserted that the comparative quantity of the active principles, (quinine and cinchonine,) yielded by the Carthagena bark, was in proportion to the quantity yielded by the Calisaya as 1 to 70. If errors so palpable would have retarded the inquiries and labours, or diminished the zeal of the

† Young on Opium.

terially, even that from the same country, climate, soil, &c. which arises no doubt in many instances from the manner in which it is prepared and cultivated. It is frequently found in our market mixed with leaves, stalks, seeds, &c. and from the great proportion of these admixtures in some opium, it would lead to a conjecture, that the leaves were worked in when the opium was in a very soft and recent state, for the purpose of increasing the weight and consistence. I have even seen opium whose external characters possessed all the features of superior quality, and when broken, exposed a large proportion of the leaves and capsules of the poppy, which, although it does not alter the particular effects, must diminish the activity of the opium in direct proportion to the quantity and weight of these extraneous and insoluble matters, and I have ascertained by careful experiments that the quantity of soluble or extractive matter by the same menstrua and process, yielded by different parcels of opium, varies from four and a half and five to six drachms in the ounce.

The consumption of opium is almost incredible. In the year 1800, 46,808 lbs. were consumed in Europe. In the year 1809, the revenue which the Bengal government derived from the sale of opium, was £ 594,978, and the exports of opium from Calcutta to China alone, in 1811-12, amounted to 4,542,968 sicca rupees—£ 567,871.* The supply for Calcutta for 1827, is rated at 13,700 chests. The supply for 1826 was 10,300 chests, making an increase of 3,400 chests in the last year.

Although opium is prohibited by the Chinese government, yet about 2000 chests are annually imported into Canton, the average sale price being 1200 dollars per chest, making the amount annually expended by Canton for this drug, the enormous sum of 24,000,000 dollars. About 40,000 pounds are annually imported into London.

In the provinces of Bahar and Banares, among the most productive of the East Indies, the common product of opium is twenty-four pounds to an acre, besides which the cultivator reaps about forty pounds of seed. The preparation of the raw

scrutinising chemist, the science, instead of holding the elevated rank it now possesses, would long since have dwindled into obscurity. Errors and absurdities will naturally creep into every department of science.

* Hamilton's East India Gazetteer.

opium is under the immediate superintendence of the company's agent, who adopts the following method to prepare it. It consists in evaporating, by exposure to the sun, the watery particles, which are replaced by oil of poppy seeds, to prevent the drying of the resin. The opium is then formed into cakes, and covered with the petals of the poppy, and when sufficiently dried, it is packed in chests with the fragments of the capsules, from which poppy seeds have been threshed out. It is said opium is sometimes vitiated with an extract from the leaves and stalks of the poppy and with the gum of the mimosa.

The cultivation of opium in England, if extensive, will no doubt influence the price of this article in our market.*

It has lately been more successfully cultivated by a Mr. YOUNG, than any other person who has yet attempted its culture in Great Britain,† and from which more flattering expectations are entertained of its success. Dr. COXE, however, in his standard work, the American Dispensatory, observes, it is apprehended, the climate of Great Britain is an insuperable obstacle to its becoming a profitable branch of agriculture. It has been obtained in the United States, where this objection will not prevail.‡ I think the southern states, particularly the Carolinas and Georgia, are admirably adapted, from climate and soil,

* Messrs. Cowley and Stains, of Winslow, in the season of 1822, raised 143 lbs. of excellent opium from eleven acres and five poles of land, for which they received a premium from the society instituted at London, for the encouragement of arts, manufactures and commerce. A medal has been given by the society to J. W. Jeston, Esq. Surgeon, for an improvement in collecting the juice of the poppy, which consists in collecting it immediately after it exudes from the capsules, instead of allowing it to be inspissated on the capsule. The capsule is scarified with a sharp instrument, gauged to a proper depth, when the juice is scraped off with a kind of funnel-form scoop, fixed into the mouth of a vial; when one vial is filled, the scoop is removed to another, and the juice is evaporated in shallow pans; some varieties are much more productive than others. (See Transactions of the Society for the encouragement of Arts, Man. and Com. Vol. 41.)

Mr. Ball, in 1796, received a premium from the society for the encouragement of arts, for a specimen of British opium, little inferior to the Oriental. (Transactions of the Society of Arts, vol. xiv. pp. 260, 270.)

† Edinburgh Philosophical Journal, No. II. page 262.

‡ Philadelphia Medical Museum, Vol. II. page 428.

for the cultivation of the poppy, and if properly managed, would no doubt yield a source of considerable profit to the cultivator, if not an immense revenue to the states, and a most important addition to the productions of our country.

The opium raised in England, has been used for several years by physicians and surgeons, who pronounce it superior to the best Turkey and East India opium. One thing is very certain; it is prepared with more care and attention, and is more free from leaves and other impurities; the fracture of English opium when dry, is as smooth and uniform as liquorice; what I have seen has been put up in small flat cakes, and of a good consistence. Opium is frequently put up in a soft state, and packed with a large proportion of leaves to prevent the lumps adhering; these leaves adhering to the sides, are gradually taken into the body of the opium, which, with that previously incorporated with it, is the cause of seeing opium in the condition of impurity as already described.

Extract of Opium.—Among the advantages which the extract of opium possesses over the crude opium of commerce is, that all the fæculencies and impurities having been separated, you obtain the soluble and active portion of the opium in a pure state, and as the insoluble and impure parts exercise no effect, and constitute a considerable proportion of bulk and weight, the opium of commerce must differ in proportion to the amount of these impurities, and consequently cannot be depended upon so well as the extract for activity or uniformity of strength. The extract of opium, as it is generally made, is very objectionable, not being more active than crude opium, and consequently is seldom or ever employed by our physicians. From various modes and different menstrua which I have tried, I find the following to make the most eligible preparation, possessing most advantages both in the activity and persistency of the extract, as well as having the decided superiority over crude opium, by affording all its desirable effects, without any of its inconveniences or disadvantages.

Denarcotized acidulous Extract of Opium.—Digest ℥i. coarsely powdered opium in ℥i. sulphuric æther of the specific gravity .735 for ten days,* occasionally submitting to a moderate heat in a water bath, distil off the æther and add fresh portions

* Where it is necessary to prepare it in haste, less time may be employed by submitting it more frequently to the temperature of ebullition.

until it ceases to take up narcotine or act at all upon the opium, which may be readily known by dropping a little on a clean pane of glass which will leave no trace when the opium is completely exhausted, the second or third distillation will prove sufficient, most of the æther may be saved if prepared with care and in a proper apparatus. Professor HARE* recommends the digestion of the opium in æther, to be performed in the Papin's digester, submit the opium thus treated, to the action of spt. vin. rect. \mathfrak{z} viii. acetic. acid. fort. \mathfrak{z} j.† aqua \mathfrak{z} vii. and digest for seven days, filter and evaporate in a water bath to the consistence of an extract. This in fact will be an impure acetate of morphia, possessing most of the advantages of that valuable medicine. One ounce of the best Turkey opium yielded by this process \mathfrak{z} vi. of extract. Laudanum and other preparations may be made of the usual standard, calculating \mathfrak{z} vi. of the extract equivalent to \mathfrak{z} i. of opium.

Denarcotized acidulous Tincture of Opium.—Digest \mathfrak{z} i. of coarsely powdered opium in one pint of sulph. æther, s. g. .735 for ten days, occasionally submitting it to the influence of a moderate heat, until it ceases to act upon the opium, separate the opium and dry it, then digest in spt. vin. rect. \mathfrak{z} viii. acetic. acid. fort. \mathfrak{z} ii. aqua \mathfrak{z} vi. for seven days, and filter. This preparation will be found to possess great advantages over laudanum and the black drop of the shops, to which it will be much preferable, inasmuch as it will be destitute of the stimulating principle, (narcotine,) which produces such distressing effects, and frequently forbids the administration of opium, where it might otherwise be extremely useful, the addition of acetic acid will contribute much to increase the calming or sedative effects, which are most generally desired, and for which opium is particularly given. By its union with the morphia, it forms in solution the active sedative salt of opium, (acetate of morphia,) and differs only from the solution of the acetate of morphia of the shops, in its state of purity, and as the extraneous matter with which it is associated has no effect on the animal system, it may be considered as good an article, and should be preferred for general use, in consequence of being much less expensive. As

* See Philadelphia Journal of the Med. and Phys. Sciences, No. IX. New Series, p. 78.

† Acid pyroligneous, pure, (concentrated.)

this preparation will always possess uniform strength, and a like proportion of opium, it certainly deserves a conspicuous place among our pharmaceutical preparations, and justly merits to supersede entirely the common black drop of our shops, which is a very uncertain preparation, differing every where in activity from the indefinite and vague manner it is directed to be made, to say nothing of the worse than useless articles which enter into its composition, such as yeast, nutmeg, and saffron.* The black drop owes its superiority over laudanum to the acetic acid of its composition, and to that *alone*, and it will be admitted by those conversant with the articles in question, that acetic acid exercises a most powerful influence in modifying the effects of opium. This I can account for in no other way than by its uniting with

* It is a singular circumstance, that so imperfect and unscientific a preparation should so long have maintained a place in our *materia medica*. I believe there is no formula, not even for the most innocent compound, so extremely indefinite, and allowing so great a scope to the judgment of the operator. In the first place, the vinegar containing the opium, nutmeg, and saffron, is directed to be boiled to a proper consistence. The activity of the preparation will consequently be subject to as much variation as the ideas of persons may differ in relation to what is termed a proper consistence, and while one person after evaporating perhaps one-eighth of the *menstrua*, would consider it of proper consistence, another might think it necessary to reduce it one-fourth, a third might conceive that even one-half was the right consistence, and the strength of the preparation would consequently be subject to a like enormous variation. In the second place we are directed to digest for seven weeks, and then place in the open air until it becomes a syrup; we cannot see the propriety of digesting so long a time, if at all, when the *menstrua*, if not saturated by the previous boiling, has at least, taken up all its soluble matter. Exposing it to the air until it becomes a syrup, is subject to as many objections as boiling to a proper consistence, and is almost as indefinite, as the consistence of a syrup, is of no fixed standard, but varies from a thin fluid, to the density of honey. It is lastly directed to be bottled, and to add a little sugar to each bottle, what quantity is meant by a little sugar, and what size the bottles are, to which it is to be added, we are left to conjecture; independent of the useless addition of sugar to what is already a syrup; the strength of the article must be diminished in proportion to the size of the bottles, and quantity of sugar to be added; we think an article so active as the black drop, should be prepared with more care, and particular and specific directions given for the mode of its preparation. An ingenious essay upon this subject is given by Mr. THOMAS EVANS, in the *Journal of the Philadelphia College of Pharmacy*.

the morphia, thereby rendering it much more soluble, and consequently facilitating its effects on the constitution, which are directly sedative, while the effects of opium in its natural state are stimulating.*

It has been recommended, by Mr. ROBIQUET, to make a watery infusion of the opium, and evaporate the aqueous solution to the consistence of thin honey, which is to be digested in æther, instead of the powdered or shaved opium, (as described in the above, and Dr. Hare's formula given in the Philadelphia Journal of the Medical and Physical Sciences, No. IX. New Series.) I consider this a worse than useless expenditure, for the æther will act fully as well, if not more readily, upon opium in powder than upon an extract containing water, and it is generally admitted, at least by the best authorities, COXE, THOMSON, and PARIS, that the narcotic powers of opium are impaired by boiling in water, under exposure to air, hence it is that the officinal preparation, opium purificatum, which formerly was highly recommended, is found to be no better, if not less active, than crude opium, from which circumstance it has become almost obsolete, and, rarely to be found in our shops. Under this article, Dr. Coxe, in his American Dispensatory, very justly observes, that in consequence of the changes which opium undergoes by solution and subsequent evaporation, (alluding to the opium purificatum,) well selected pieces are to be preferred to this preparation. I cannot see the object in, or the advantage that can result from, making a watery extract, as the opium deprived of narcotine, will be quite as subject to the action of proof spirits, or any other menstrua, with its fæculencies, as the crude opium. We do not make a watery extract of opium in the preparation of laudanum, and it would be quite as necessary in this case as in the former. Besides, water is not the most eligible menstrua for the solution of the active matter of opium. Morphia is sparingly soluble in water, and the meconiate nearly

* DR. JOSEPH HARTSHORNE, in consequence of the uncertainty of the strength of the black drop of the shops, has adopted the following preparation, which has been extensively employed, and found to possess all the advantages of that article:—

Turkey opium	-	-	-	3j.
Strong vinegar	-	-	-	3vj.
Alcohol	-	-	-	3iv.

Triturate the opium with vinegar, add the alcohol, and digest for ten days.

the same, you, therefore, obtain but a portion of the sedative principle, as a part of the morphia will remain with the fæculencies undissolved, consequently, with an increased labour and expense, a less active preparation is obtained, than if the crude opium were at once submitted to the action of æther, and the residue to proof spirits, as in the above formula, to which the addition of acetic acid is an admirable improvement, rendering the morphia more soluble, and consequently more active, in the same manner, and nearly in the same ratio, as sulphuric acid united with quinine, (by increasing its solubility,) renders it much more active and efficient. Dr. Thomson, speaking of morphia, observes, that it being scarcely soluble in water, or in the fluids of the stomach, in its uncombined state, does not display in a striking manner its properties when exhibited alone, but these are very striking when combined with an acid, particularly the acetic. I would here remark, that the acetate of morphia,* of the shops, is a sub-acetate, and is less active than the acetate or super-acetate, which, being a deliquescent salt, must necessarily be kept in solution; it is, therefore, requisite in making the solution from the sub-acetate, to add acetic acid rather in excess than under neutralization. The following is the formula I have adopted, which will make a handsome solution, and is a preparation that will keep:—

Sub-acetate of morphia, - - - grs. xii.

Alcohol, acidulated with twelve drops

of acetic acid (pure concentrated

pyroligneous acid,) - - - 3i.

Distilled water, - - - 3i.

Dissolve the morphia in the acidulated alcohol, and add by degrees the water, and filter. Dose of the solution, from fifteen to twenty drops.

This preparation has been very successfully used by Dr. HOLCOMBE, of Allentown, and Dr. CANFIELD, of Arneytown, New Jersey, in cases where other preparations of opium could not be administered, in consequence of producing those unpleasant and distressing sensations which frequently result from their use.

* I found, in one instance, the morphia under the name of acetate of morphia, perfectly uncombined with acid. This is a much less active medicine, and it is therefore highly important to test this salt where you wish to administer it in substance. When in solution it must be united with acid, as morphia is insoluble in water.

This preparation is now extensively employed, and is attended with the most desirable consequences.

Narcotine.—By the following process I obtained narcotine in a perfectly pure state.

Digest \bar{z} i. of coarsely powdered opium in one pint of æther, for ten days, frequently submitting it to ebullition in a water bath, separate the æther and add fresh portions until the opium is exhausted, evaporate at the common temperature of the atmosphere, by placing the ætherial solution in a salt-mouth bottle, remove the stopper, and cover the mouth with bibulous paper, to prevent impurities falling in, and protract the evaporation. As the æther recedes, it leaves the sides of the bottle coated with crystals of narcotine, as the solution becomes more dense, the crystals enlarge and accumulate, and the bottom of the vessel is covered with large transparent crystals, accompanied with a brown viscid liquor, and extract, which contains an acid, resin, caoutchouc, &c. Separate these substances from the crystalline mass and wash the salt in cold æther, to separate more effectually the extract or colouring matter. After the crystals have been sufficiently washed, dissolve them in warm æther, evaporate as before, when most beautiful snow white crystals of perfectly pure narcotine will adhere to the sides of the vessel. Those on the sides of the bottle assume plumose and arborescent forms, which, being made up of delicate acicular crystals of a somewhat silky lustre, exhibit a most beautiful appearance. As the ætherial solution becomes more dense by evaporation, the crystals enlarge, and the bottom of the vessel, as before, is covered with pure narcotine, assuming the rhomboidal prismatic form, with some beautiful modifications of maced crystals. By picking out the largest and most regular crystals and again dissolving them and evaporating and repeating the same process, each time selecting the largest and best crystals, I obtained crystals one-eighth of an inch in diameter, and I believe by continuing in the same manner, much larger might be obtained, as they increase in size by every crystallization.

Resin, Caoutchouc, Oil, and Acid.—These substances are the constituents of the extractive matter which covers the crystals, and is separated in the manner above described; on evaporation it forms an extract without signs of crystallization. This substance appears to possess all the heavy narcotic odour of the opium. The narcotine, when perfectly separated from this sub-

stance, has very little odour, and the denarcotised extract and laudanum possesses less; in fact, so little, that it could hardly be detected as a preparation of opium by the odour, the strong odour of the extract arises from the oil of opium which it contains. The activity of BAUME's celebrated extract, is considered by NEUMANN, to reside in the oil and resin. The acid which exists in this compound, has not been sufficiently examined to say any thing definite in relation to it. The characters of the caoutchouc are very prominent. I have not yet tried the effects of this combination upon animals, nor have I seen any description of it, but judging merely from its sensible characters, it would appear more active than the narcotine.

Morphia.—This substance exists in opium, united with meconic acid; its action on the human body is that of a direct sedative, and possesses all the advantages which we may expect to find in opium, without any of its inconveniences. Different modes for the preparation of this article have been described by ROBIQUET, DEROSNE, CHOULANT, STERTUERNER, and others; Dr. Thomson gives an easy method to obtain it in a state of purity. He employs ammonia instead of magnesia to decompose the natural meconiate, &c. (see *Annals of Philosophy* for June, 1820.) The sedative powers of morphia becomes more manifest when combined with an acid, particularly the acetic, which arises from increasing its solubility. Morphia is very soluble in olive oil, and according to the experiments of Mr. MAJENDIE, the compound acts with great intensity. I am indebted to Dr. Coxe, for the following interesting history of the crystalline forms of its saline compounds.

The *carbonat* crystallizes in short prisms.

Acetate in soft silky prisms, is very soluble, and extremely active—more so than any other of its combinations.

Sulphate in arborescent crystals, next in solubility to the acetate, and rather less active.

Muriate in plumose crystals, much less soluble, when evaporated, it concretes into a shining white plumose mass on cooling.

Nitrate in prisms grouped together.

Meconiate in oblique prisms sparingly soluble.

Tartrate in prisms.

From either of the above combinations, morphia may be separated by ammonia.

The acetate of morphia is the most active preparation, and as

it is a very deliquescent salt, is extremely difficult to obtain in crystals; under these circumstances the following process has been recommended to convert the morphia into the acetate. Take morphia, four parts, distilled water, eight parts; dilute the morphia in a porcelain vessel, afterwards add acetic acid, sp. gr. 1.075, or pure concentrated pyroligneous acid until turnsole paper becomes scarcely converted red, evaporate the solution to the consistence of syrup, continue the evaporation slowly, either in the sun or in a stove, collect the salt and reduce it to powder.*

The sulphate is the next most active salt of morphia, and is employed where patients have been accustomed to the use of the acetate, for generally, by varying the salts of alkaline medicines, their action may be kept up longer without increasing the dose too considerably. Formulas for the preparation of the acetate and sulphate in solution, syrup, pills, &c. are given in Hayden's Formulary and Formulaire de Montpellier. The other combinations of morphia with the exception of the citrate, tartrate, and meconiate, have not yet been employed in medicine.

Meconic acid exists in combination with morphia in crude opium, forming a meconiate of morphia; it is to this salt that laudanum owes its narcotic effects. Our distinguished chemist, Dr. Hare, has given, in the Philadelphia Journal of the Medical and Physical Sciences, No. IX. New Series, an easy process for obtaining this acid, and also a very delicate test and easy mode of detecting minute quantities of opium in solution; his observations on this subject are well worthy the attention of the chemist and pharmacist.

Fæculencies, &c.—Fæculencies and insoluble matter consist chiefly of the leaves, capsules, and stems of the poppy; besides these, however, extraneous matters are frequently found, having been fraudulently introduced to increase its weight. The insoluble matter in different parcels of opium vary from one and a half to near three drachms in the ounce.

The effects of opium are generally so well known, that it is unnecessary to give a description;† it sometimes, however, ex-

* Pharmacopia Gallica, 1818, p. 387.

† The following particular account of the effects of opium on the Turks, by Baron de Tott, may be interesting to many readers. Speaking of those who give themselves up to its immoderate use, he says:—Destined to live agreeably only when in a sort of drunkenness, these men present above all a curious spectacle, when they are assembled in a part

exercises very remarkable and singular effects on the constitution, differing materially in its action on different individuals. A case

of Constantinople, called *Teriaky Tcharchissy*, the market of opium-eaters. It is there that, towards evening, one sees the lovers of opium arrive by the different streets which terminate at the Solymania, whose pale and melancholy countenances would inspire only compassion, did not their stretched necks, their heads twisted to the right and left, their back bones crooked, one shoulder up to the ears, and a number of other whimsical attitudes, which are the consequences of the disorder, present the most ludicrous and the most laughable picture. A long row of little shops is built against one of the walls of the place where the mosque stands. These shops are shaded by an arbour, which communicates from one to the other, and under which every merchant takes care to place a small sofa for his customers to sit on, without hindering the passage, who place themselves in succession to receive a dose proportioned to the degree of habit and want they have contracted. The pills are soon distributed; the most experienced swallow four of these, larger than olives, and every one drinking a large glass of cold water upon it, waits in some particular attitude for an agreeable reverie, which at the end of three quarters of an hour, or an hour at most, never fails to animate these machines, and make them gesticulate in a hundred different manners, but they are always very extraordinary and very gay. This is the moment when the scene becomes most interesting, all the actors are happy, each of them returns home in a state of total ebriety, but in the full and perfect possession of an happiness which reason is not able to procure him. Deaf to the hootings of the passengers they meet with, who divert themselves by making them talk nonsense, every one of them firmly believes himself in possession of what he wishes; they have the appearance and the feeling of it; the reality frequently does not produce so much pleasure. The same thing happens in private houses, where the master sets the example of this strange debauch. The men of the law are most subject to it; and all the dervises used to get drunk with opium, before they learned to prefer the excess of wine. There are instances of persons getting drunk indifferently with opium or with brandy. There is a decoction which is made of the shells and seeds of the poppy; this the Persians call *locquenor*; they sell it publicly in all their cities, as they do coffee. The Persians say it entertains their fancies with pleasant visions and a kind of rapture; they very soon grow merry, then burst into a laugh, which continues till they die away in a swoon. It is found by those who have a disposition for jesting to increase that extremely. After the operation of this remedy, the body grows cold, pensive, and heavy; and in this dull and indolent situation it remains till the dose is repeated. It is curious to observe the countenances of those who use this decoction, before its operation, and when its effects have taken place. When they come into the decoction-house, they are dull, pale, and languid; but as soon as the remedy begins to operate, they are quite changed; they

is mentioned in the Archives Générales de Médecine, for Dec. 1826, of a lady of nervous temperament, who on taking a draught in which there was half a grain of acetate of morphia, suddenly sunk into a state of syncope, which continued for two or three hours; it was several times repeated at intervals of an hour or two, and attended with the same results. Dr. DEWEES met with an instance in which the opium invariably purged, and was in the habit of employing it as a purgative in this case, in doses of two grains, purgatives not producing their usual effects; he has also met with one instance in which opium excited violent coughing, even when administered in enema.* Dr. Rousseau informed me he had a case somewhat similar to the former, (an unmarried lady of thirty-four years,) where opium universally acted as a purgative; the denarcotised laudanum administered by Dr. Rousseau to the same patient, did not produce this singular effect, although continued for several days.† This same gentleman also informs me that it is not unfrequent in his practice to meet with cases in which opium acts as a purgative, and has discovered that the addition of tartaric acid increases considerably its purgative effects.

The several preparations of opium as above described, may be procured from O. Carpenter's Chemical Warehouse, 1, Market street, Philadel.
No. 301, Market st. Philada.

It is stated that highly rectified æther is the only menstrua for the solution of narcotine. If this is the fact, I cannot understand how laudanum contains this principle when its menstrua is nothing stronger than proof spirits, and that nearly saturated with the gummy, resinous, and other soluble matters of the opium.

I am about instituting some experiments upon the residue of opium after laudanum has been made, and also upon the matter precipitated from laudanum after long standing, the results of which I hope to submit in a subsequent number of the Philadelphia Journal of the Medical and Physical Sciences.

run into all the extravagancies of mirth and laughter, and such an uproar is produced, that it would be more proper to give it the name of the mad-house than decoction-shop.—(*Crumpe on Opium.*)

* See the Philadelphia Journal of the Medical and Physical Sciences, No. IX. New Series, p. 147.

† Dr. Rousseau has since informed me, that on further continuing the use of the denarcotized tincture, the purgative effects recurred, and he was consequently obliged to suspend its administration.